

PF-0531 USN

<110> BANDMAN, Olga  
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GUEGLER, Karl J.  
BAUGHN, Mariah R.  
PATTERSON, Chandra

<120> Cell Cycle Regulation Proteins

<130> PF-0531 USN

<140> 09/701,675

<141> Herewith

<150> PCT/US99/12906

<151> 1999-06-08

<150> 60/088,695

<151> 1998-06-08

<160> 35

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<212> PRT

<213> Homo sapiens

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Pro	Glu	Pro	Gly	Pro	Ser	Ser	Ser	Ile	Gly	Ser	Pro	Gln	Ala	Ser
				35					40					45
Ser	Pro	Pro	Arg	Pro	Asn	His	Tyr	Leu	Leu	Ile	Asp	Thr	Gln	Gly
				50					55					60
Val	Pro	Tyr	Thr	Val	Leu	Val	Asp	Glu	Glu	Ser	Gln	Arg	Glu	Pro
				65					70					75
Gly	Ala	Ser	Gly	Ala	Pro	Gly	Gln	Lys	Lys	Cys	Tyr	Ser	Cys	Pro
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Val	Cys	Ser	Arg	Val	Phe	Glu	Tyr	Met	Ser	Tyr	Leu	Gln	Arg	His
				95					100					105
Ser	Ile	Thr	His	Ser	Glu	Val	Lys	Pro	Phe	Glu	Cys	Asp	Ile	Cys
				110					115					120
Gly	Lys	Ala	Phe	Lys	Arg	Ala	Ser	His	Leu	Ala	Arg	His	His	Ser
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Ile	His	Leu	Ala	Gly	Gly	Gly	Arg	Pro	His	Gly	Cys	Pro	Leu	Cys
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Pro	Arg	Arg	Phe	Arg	Asp	Ala	Gly	Glu	Leu	Ala	Gln	His	Ser	Arg
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<223> Incyte ID No: 162871

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Pro	Tyr	Ile	Ser	Ser	Val	Thr	Ser	Gln	Ser	Val	Asn	Leu	Met	Ile
				20					25					30
Arg	Gly	Val	Val	Leu	Phe	Phe	Ile	Gly	Val	Phe	Leu	Ala	Leu	Val
				35					40					45
Leu	Asn	Leu	Leu	Gln	Ile	Gln	Arg	Asn	Val	Thr	Leu	Phe	Pro	Pro
				50					55					60
Asp	Val	Ile	Ala	Ser	Ile	Phe	Ser	Ser	Ala	Trp	Trp	Val	Pro	Pro
				65					70					75
Cys	Cys	Gly	Thr	Ala	Ser	Ala	Val	Ile	Gly	Leu	Leu	Tyr	Pro	Cys
				80					85					90
Ile	Asp	Arg	His	Leu	Gly	Glu	Pro	His	Lys	Phe	Lys	Arg	Glu	Trp
				95					100					105
Ser	Ser	Val	Met	Arg	Cys	Val	Ala	Val	Phe	Val	Gly	Ile	Asn	His
				110					115					120
Ala	Ser	Ala	Lys	Val	Asp	Phe	Asp	Asn	Asn	Ile	Gln	Leu	Ser	Leu
				125					130					135
Thr	Leu	Ala	Ala	Leu	Ser	Ile	Gly	Leu	Trp	Trp	Thr	Phe	Asp	Arg
				140					145					150
Ser	Arg	Ser	Gly	Phe	Gly	Leu	Gly	Val	Gly	Ile	Ala	Phe	Leu	Ala
				155					160					165
Thr	Val	Val	Thr	Gln	Leu	Leu	Val	Tyr	Asn	Gly	Val	Tyr	Gln	Tyr
				170					175					180
Thr	Ser	Pro	Asp	Phe	Leu	Tyr	Val	Arg	Ser	Trp	Leu	Pro	Cys	Ile
				185					190					195
Phe	Phe	Ala	Gly	Gly	Ile	Thr	Met	Gly	Asn	Ile	Gly	Arg	Gln	Leu
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Ala	Met	Tyr	Glu	Cys	Lys	Val	Ile	Ala	Glu	Lys	Ser	His	Gln	Glu
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<213> Homo sapiens

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<223> Incyte ID No: 236062

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				20					25					30
Ala	Ala	Val	Ala	Gln	Ala	Pro	Pro	Ala	Val	Ala	Ser	Ser	Ser	Leu
				35					40					45
Phe	Asp	Leu	Ser	Val	Leu	Lys	Leu	His	His	Ser	Leu	Gln	Gln	Ser
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Glu	Pro	Asp	Leu	Arg	His	Leu	Val	Leu	Val	Val	Asn	Thr	Leu	Arg
				65					70					75
Arg	Ile	Gln	Ala	Ser	Met	Ala	Pro	Ala	Ala	Ala	Leu	Pro	Pro	Val
				80					85					90
Pro	Ser	Pro	Pro	Ala	Ala	Pro	Ser	Val	Ala	Asp	Asn	Leu	Leu	Ala
				95					100					105
Ser	Ser	Asp	Ala	Ala	Leu	Ser	Ala	Ser	Met	Ala	Ser	Leu	Leu	Glu
				110					115					120
Asp	Leu	Ser	His	Ile	Glu	Gly	Leu	Ser	Gln	Ala	Pro	Gln	Pro	Leu
				125					130					135
Ala	Asp	Glu	Gly	Pro	Pro	Gly	Arg	Ser	Ile	Gly	Gly	Ala	Ala	Pro
				140					145					150
Ser	Leu	Gly	Ala	Leu	Asp	Leu	Leu	Gly	Pro	Ala	Thr	Gly	Cys	Leu
				155					160					165
Leu	Asp	Asp	Gly	Leu	Glu	Gly	Leu	Phe	Glu	Asp	Ile	Asp	Thr	Ser
				170					175					180
Met	Tyr	Asp	Asn	Glu	Leu	Trp	Ala	Pro	Ala	Ser	Glu	Gly	Leu	Lys
				185					190					195
Pro	Gly	Pro	Glu	Asp	Gly	Pro	Gly	Lys	Glu	Glu	Ala	Pro	Glu	Leu
				200					205					210
Asp	Glu	Ala	Glu	Leu	Asp	Tyr	Leu	Met	Asp	Val	Leu	Val	Gly	Thr
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<223> Incyte ID No: 1596581

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Gln	Asp	Phe	Asn	Lys	Val	Val	Phe	Lys	Lys	Gln	Lys	Leu	Leu	Leu
				20					25					30

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Glu	Leu	Asp	Gln	Tyr	Ala	Pro	Asp	Val	Ala	Glu	Leu	Ile	Arg	Thr			
				35					40					45			
Pro	Met	Glu	Met	Arg	Tyr	Ile	Pro	Leu	Lys	Val	Ala	Leu	Phe	Tyr			
				50					55					60			
Leu	Leu	Asn	Pro	Tyr	Thr	Ile	Leu	Ser	Cys	Val	Ala	Lys	Ser	Thr			
				65					70					75			
Cys	Ala	Ile	Asn	Asn	Thr	Leu	Ile	Ala	Phe	Phe	Ile	Leu	Thr	Thr			
				80					85					90			
Ile	Lys	Gly	Ser	Ala	Phe	Leu	Ser	Ala	Ile	Phe	Leu	Ala	Leu	Ala			
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Thr	Tyr	Gln	Ser	Leu	Tyr	Pro	Leu	Thr	Leu	Phe	Val	Pro	Gly	Leu			
				110					115					120			
Leu	Tyr	Leu	Leu	Gln	Arg	Gln	Tyr	Ile	Pro	Val	Lys	Met	Lys	Ser			
				125					130					135			
Lys	Ala	Phe	Trp	Ile	Phe	Ser	Trp	Glu	Tyr	Ala	Met	Met	Tyr	Val			
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Gly	Ser	Leu	Val	Val	Ile	Ile	Cys	Leu	Ser	Phe	Phe	Leu	Leu	Ser			
				155					160					165			
Ser	Trp	Asp	Phe	Ile	Pro	Ala	Val	Tyr	Gly	Phe	Ile	Leu	Ser	Val			
				170					175					180			
Pro	Asp	Leu	Thr	Pro	Asn	Ile	Gly	Leu	Phe	Trp	Tyr	Phe	Phe	Ala			
				185					190					195			
Glu	Met	Phe	Glu	His	Phe	Ser	Leu	Phe	Phe	Val	Cys	Val	Phe	Gln			
				200					205					210			
Ile	Asn	Val	Phe	Phe	Tyr	Thr	Ile	Pro	Leu	Ala	Ile	Lys	Leu	Lys			
				215					220					225			
Glu	His	Pro	Ile	Phe	Phe	Met	Phe	Ile	Gln	Ile	Ala	Val	Ile	Ala			
				230					235					240			
Ile	Phe	Lys	Ser	Tyr	Pro	Thr	Val	Gly	Asp	Val	Ala	Leu	Tyr	Met			
				245					250					255			
Ala	Phe	Phe	Pro	Val	Trp	Asn	His	Leu	Tyr	Arg	Phe	Leu	Arg	Asn			
				260					265					270			
Ile	Phe	Val	Leu	Thr	Cys	Ile	Ile	Ile	Val	Cys	Ser	Leu	Leu	Phe			
				275					280					285			
Pro	Val	Leu	Trp	His	Leu	Trp	Ile	Tyr	Ala	Gly	Ser	Ala	Asn	Ser			
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Asn	Phe	Phe	Tyr	Ala	Ile	Thr	Leu	Thr	Phe	Asn	Val	Gly	Gln	Ile			
				305					310					315			
Leu	Leu	Ile	Ser	Asp	Tyr	Phe	Tyr	Ala	Phe	Leu	Arg	Arg	Glu	Tyr			
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Tyr	Leu	Thr	His	Gly	Leu	Tyr	Leu	Thr	Ala	Lys	Asp	Gly	Thr	Glu			
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<223> Incyte ID No: 1853196

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Thr	Pro	Thr	Asp	Ser	Cys	Glu	Pro	Ala	Pro	Glu	Cys	Ser	Ser	Leu	35	40	45	
Glu	Gln	Glu	Glu	Leu	Gln	Ala	Leu	Gln	Ile	Glu	Gln	Gly	Glu	Ser	50	55	60	
Ser	Gln	Asn	Gly	Thr	Val	Leu	Met	Glu	Glu	Thr	Ala	Tyr	Pro	Ala	65	70	75	
Leu	Glu	Glu	Thr	Ser	Ser	Thr	Ile	Glu	Ala	Glu	Glu	Gln	Lys	Ile	80	85	90	
Pro	Glu	Asp	Ser	Ile	Tyr	Ile	Gly	Thr	Ala	Ser	Asp	Asp	Ser	Asp	95	100	105	
Ile	Val	Thr	Leu	Glu	Pro	Pro	Lys	Leu	Glu	Glu	Ile	Gly	Asn	Gln	110	115	120	
Glu	Val	Val	Ile	Val	Glu	Glu	Ala	Gln	Ser	Ser	Glu	Asp	Phe	Asn	125	130	135	
Met	Gly	Ser	Ser	Ser	Ser	Ser	Gln	Tyr	Thr	Phe	Cys	Gln	Pro	Glu	140	145	150	
Thr	Val	Phe	Ser	Ser	Gln	Pro	Ser	Asp	Asp	Glu	Ser	Ser	Ser	Asp	155	160	165	
Glu	Thr	Ser	Asn	Gln	Pro	Ser	Pro	Ala	Phe	Arg	Arg	Arg	Arg	Ala	170	175	180	
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Ala	Glu	Gln	Glu	Thr	Glu	Pro	Ser	Lys	Glu	Leu	Ser	Lys	Arg	Gln	200	205	210	
Phe	Ser	Ser	Gly	Leu	Asn	Lys	Cys	Val	Ile	Leu	Ala	Leu	Val	Ile	215	220	225	
Ala	Ile	Ser	Met	Gly	Phe	Gly	His	Phe	Tyr	Gly	Thr	Ile	Gln	Ile	230	235	240	
Gln	Lys	Arg	Gln	Gln	Leu	Val	Arg	Lys	Ile	His	Glu	Asp	Glu	Leu	245	250	255	
Asn	Asp	Met	Lys	Asp	Tyr	Leu	Ser	Gln	Cys	Gln	Gln	Glu	Gln	Glu	260	265	270	
Ser	Phe	Ile	Asp	Tyr	Lys	Ser	Leu	Lys	Glu	Asn	Leu	Ala	Arg	Cys	275	280	285	
Trp	Thr	Leu	Thr	Glu	Ala	Glu	Lys	Met	Ser	Phe	Glu	Thr	Gln	Lys	290	295	300	
Thr	Asn	Leu	Ala	Thr	Glu	Asn	Gln	Tyr	Leu	Arg	Val	Ser	Leu	Glu	305	310	315	
Lys	Glu	Glu	Lys	Ala	Leu	Ser	Ser	Leu	Gln	Glu	Glu	Leu	Asn	Lys	320	325	330	
Leu	Arg	Glu	Gln	Ile	Arg	Ile	Leu	Glu	Asp	Lys	Gly	Thr	Ser	Thr	335	340	345	
Glu	Leu	Val	Lys	Glu	Asn	Gln	Lys	Leu	Lys	Gln	His	Leu	Glu	Glu	350	355	360	
Glu	Lys	Gln	Lys	Lys	His	Ser	Phe	Leu	Ser	Gln	Arg	Glu	Thr	Leu	365	370	375	
Leu	Thr	Glu	Ala	Lys	Met	Leu	Lys	Arg	Glu	Leu	Glu	Arg	Glu	Arg	380	385	390	
Leu	Val	Thr	Thr	Ala	Leu	Arg	Gly	Glu	Leu	Gln	Gln	Leu	Ser	Gly				

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Arg Lys Leu Thr Phe Glu Gln Gln Arg Ser Asp Leu Trp Glu Arg			
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Leu Tyr Val Glu Ala Lys Asp Gln Asn Gly Lys Gln Gly Thr Asp			
	455	460	465
Gly Lys Lys Lys Gly Gly Arg Gly Ser His Arg Ala Lys Asn Lys			
	470	475	480
Ser Lys Glu Thr Phe Leu Gly Ser Val Lys Glu Thr Phe Asp Ala			
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Met Lys Asn Ser Thr Lys Glu Phe Val Arg His His Lys Glu Lys			
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Ile Lys Gln Ala Lys Glu Ala Val Lys Glu Asn Leu Lys Lys Phe			
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Lys Glu Ala Ala Glu Lys Pro Arg Thr Val Phe Ser Asp Tyr Leu			
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His Pro Gln Tyr Lys Ala Pro Thr Glu Asn His His Asn Arg Gly			
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Pro Thr Met Gln Asn Asp Gly Arg Lys Glu Lys Pro Val His Phe			
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His Asp Cys Arg Glu Asn Ser His Ser Phe Arg Lys Ala Cys Ser			
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Gly Val Phe Asp Cys Ala Gln Gln Glu Ser Met Ser Leu Phe Asn			
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Thr Val Val Asn Pro Ile Arg Met Asp Glu Phe Arg Gln Ile Ile			
	650	655	660
Gln Arg Tyr Met Leu Lys Glu Leu Asp Thr Phe Cys His Trp Asn			
	665	670	675
Glu Leu Asp Gln Phe Ile Asn Lys Phe Phe Leu Asn Gly Val Phe			
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Ile His Asp Gln Lys Leu Phe Thr Asp Phe Val Asn Asp Val Lys			
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Asp Tyr Leu Arg Asn Met Lys Glu Tyr Glu Val Asp Asn Asp Gly			
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Val Phe Glu Lys Leu Asp Glu Tyr Ile Tyr Arg His Phe Phe Gly			
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Pro Cys His Tyr Ser Ser Leu			
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<212> DNA

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<220>

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<223> Incyte ID No: 162871

<400> 7

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<211> 1192

<212> DNA

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<223> Incyte ID No: 236062

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gaattccctg gccctggggg catagcttgg gctgttcctt ctctgatacg ggaagagacc 1140
ccaatcagat ttttcaaatt aaagccagtc ctgggaaatc tcaaaaaaaa aa 1192
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<210> 9

<211> 1631

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 1596581

<400> 9

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tggttgaagg cctttcactg ttggacttgg gagtatctcc gtattctgga gcagtatttc 180
atgaaactcc attaataata tacctctttc atttcctaatt tgactatgct gaattgggtg 240
ttatgataac tgatgcactc actgctattg ccctgtattt tgcaatccag gacttcaata 300
aagttgtggt taaaaagcag aaactcctcc tagaactgga ccagtatgcc ccagatgtgg 360
```



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```
ccgaactcat cccgaccct atggaaatgc gttacatccc tttgaaagtg gccctgttct 420
atctcttaaa tccttacacg attttgcctt gtgttgccaa gtctacctgt gccatcaaca 480
acaccctcat tgctttcttc attttgacta cgataaaagg cagtgccttc ctcagtgcga 540
tttttcttgc cttagcgaca taccagctct tgtaccact caccttgttt gtcccaggac 600
tcctctatct cctccagcgg cagtacatac ctgtgaaaat gaagagcaaa gccttctgga 660
tcttttcttg ggagtatgcc atgatgtatg tgggaagcct agtggtaatc atttgctct 720
ccttcttctt tctcagctct tgggatttca tccccgcagt ctatggcttt atactttctg 780
ttccagatct cactccaaac attggtcttt tctggtactt ctttgcagag atgtttgagc 840
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gacccccacc ttgtggctct gcacaccaag gagccccctc ccagacagga aggagaagag 1560
gcagggtgagc agggcttgtt agattgtggc tacttaataa atgttttttg ttatgaagtc 1620
taaaaaaaaa a 1631
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<210> 10

<211> 3006

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 1853196

<400> 10

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gttgccccctt cagacctgaa agatgtctga aaattccagt gacagtgatt catcttgttg 120
ttggactgtc atcagtcatg aggggtcaga tatagaaatg ttgaattctg tgacccccac 180
tgacagctgt gagcccgccc cagaatgttc atcttttagag caagaggagc ttcaagcatt 240
gcagatagag caaggagaaa gcagccaaaa tggcacagtg cttatggaag aaactgctta 300
tccagctttg gaggaaacca gctcaacaat tgaggcagag gaacaaaaga taccgaaga 360
cagtatctat attggaactg ccagtgatga ttctgatatt gttacccttg agccacctaa 420
gttagaagaa attggaatc aagaagttgt cattgttgaa gaagcacaga gttcagaaga 480
ctttaacatg ggctcttctt ctagcagcca gtatactttc tgtcagccag aaactgtatt 540
ttcatctcag cctagtgatg atgaatcaag tagtgatgaa accagtaatc agcccagtc 600
tgcctttaga cgacgccgtg ctaggaagaa gaccgtttct gcttcagaat ctgaagaccg 660
gctagtgtgct gaacaagaaa ctgaaccttc taaggagttg agtaaacgtc agttcagtag 720
tgggtctcaat aagtgtgtta tacttgcttt ggtgattgca atcagcatgg gatttgcca 780
tttctatggc acaattcaga ttcagaagcg tcaacagtta gtcagaaaaga tacatgaaga 840
tgaattgaat gatatgaagg attatctttc ccagtgtcaa caggaaacaag aatcttttat 900
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gatgtccttt gaaactcaga aaacgaacct tgctacagaa aatcagtatt taagagtatc 1020
cctggagaag gaagaaaaag cttatcctc attacagaa gagttaaaca aactaagaga 1080
acagattaga atattggaag ataaaggac aagtactgaa ttagttaaag aaaactagaa 1140
acttaagcag catttggaag aggaaaagca gaaaaaacac agctttctta gtcaaaggga 1200
gactctgttg acagaagcaa agatgctaaa gagagaactg gagagagaac gactagtaac 1260
```

```

taccggctttaa agggggggaac tccagcagtt aagtggtagt cagttacatg gcaagtcaga 1320
ttctcccaat gtatatactg aaaaaaagga aatagcaatc ttacgggaaa gactcactga 1380
gctggaacgg aagctaacct tcgaacagca gcgttctgat ttgtgggaaa gattgtatgt 1440
tgaggcaaaa gatcaaaatg gaaaacaagg aacagatgga aaaaagaaaag ggggcagagg 1500
aagccacagg gctaaaaata agtcaaagga aacatttttg ggttcagtta aggaaacatt 1560
tgatgccatg aagaattcta ccaaggagtt tgtaaggcat cataaagaga aaattaagca 1620
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cagacacttt aaagatacca ccaagaatat ctttgatgaa aagggttaata aaagatttgg 1740
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gtataaggca cctacagaaa accatcataa tagaggccct actatgcaa atgatggaag 1860
gaaagaaaag ccagttcact ttaaagaatt cagaaaaaat acaaattcaa agaaatgcag 1920
tcctgggcat gattgtagag aaaattctca ttctttcaga aaggcttggt ctggtgtatt 1980
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gtgaaattat tttcctttta tcttttatgt atttattcac ttttggaagc taggaatgag 2700
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ttcataataa ttttttatcc attttcatct ttatattctg taacatgaaa cttacctaatt 2940
cttcaaattgt tagcttcatt ttttaccttt gaaatactta atctttctga ataaatataa 3000
tgtgta 3006

```

&lt;210&gt; 11

&lt;211&gt; 684

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte ID No: 108390F1

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; 269, 285, 295, 312, 366, 375, 378, 397, 406, 428, 495, 501, 503, 586, 592, 610, 613, 643

&lt;223&gt; a, t, c, g, or other

&lt;400&gt; 11

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cagtatatac attggggagaa tctgacttgc catgtaactg actaccactt aactgctgga 60
gttccccctt taaagccgta gttactagtc gttctctctc cagttctctc ttttagcatct 120
ttgcttctgt caacagagtc tccctttgac taagaaagct gtgttttttc tgcttttctt 180
cttccaaatg ctgcttaagt ttctgatttt cttaaactaa ttcagtactt gtccttttat 240
cttccaatat tctaactctgt tctcttagnt tgtttaactc ttccngtaat gaggntaagg 300
ctttttcttc cntctccagg gatactctta aatactgatt ttctgtagca aggttcggtt 360
ctgagnttca aaggncanct tctctgcttc agtaagngtc caacancttg caagatttct 420

```

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```
ttcaatgnct tataatctat aaaagttctt gttcccgttg acacggggaa ggtaatcctc 480
atatcatcaa ttcancttca ngnatcttct tgactaactg ttgacgggtc tgaatctgaa 540
tgtgccatag gaatggccaa atcccatgct gattgcaatc accaangcaa gnataacaca 600
cttattgggn ccnctactga actgacgggt actcaactcc ttnggagggt cagttcttgt 660
tcagcaacta gccggtcttc agat 684
```

<210> 12  
<211> 416  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<223> Incyte ID No: 1211009R1

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<400> 12
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gctgtgaagg aaaatctgaa aaaattctca gattcagtta aatccacttt cagacacttt 120
aaagatacca ccaagaatat ctttgatgaa aagggttaata aaagatttgg tgctacaaaa 180
gaagcagctg aaaaaccaag aacagttttt agtgactatt tacatccaca gtataaggca 240
cctacagaaa accatcataa tagaggccct actatgcaaa atgatggaag gaaagaaaag 300
ccagttcact ttaaagaatt cagaaaaaat acaaattcaa agaaatgcag tcctgggcat 360
gattgtagag aaaattctca ttctttcaga aaggccttgt ctggtgtatt tgattg 416
```

<210> 13  
<211> 609  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<223> Incyte ID No: 1211009T1

<220>  
<221> unsure  
<222> 25, 152, 166, 169, 173-174, 180, 183, 186, 192-193, 198, 200, 205,  
220, 230, 233, 236, 243, 246, 251, 285, 307, 309-310, 317, 319, 329,  
344-345, 377, 475, 485, 556, 573, 583, 594  
<223> a, t, c, g, or other

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<400> 13
aagaacatta tatttattca gaaanattaa gtatttcaaa ggtaaaaaat gaagctaaca 60
tttgaagatt aggtaagttt catgttacag aatataaaga tgaaaatgga taaaaaatta 120
ttatgaagta cacacattag aatttgactt gnttagtttg cctctntgng ccnntacctn 180
tancanaggt anntatgngn ctaantatca taactaagcn ggtacatggn atnganaagt 240
ganaanaggt nggacattag aaattattat atatgagctc ttctnacttc agagtaaaaat 300
ttgtgtngnn cattccnanc ttccaaaant gaataaatac atannagatt aaaggaaaat 360
aatttcactt aagggtgntct tttcatataa actataatga gaagaaacaa acttggccaa 420
agtaggattt tatatattct taactgattt ttaagataga aaattaaacc atttntctca 480
gtcanagtga tcacgttata atgaaatgtt ccatttgtaa cagctaataa tttttagact 540
ccatctttca atttantctg aattctctca gtngccataa agncaactct tagnaacggt 600
accttcaag 609
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<210> 14

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<211> 189

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 1352052H1

<400> 14

cttcacatcc gtcctcctgt ctcagggctg gcagggggag cctggaatta cccctagtgt 60  
atggaatgac aggggtctggt ggggactgaa ttccctggcc ctgggggtcat agcttgggct 120  
gttccttctc tgatacggga agagacccca atcagatttt tcaaattaaa gccagtcctg 180  
ggaaatctc 189

<210> 15

<211> 473

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 1391767F1

<220>

<221> unsure

<222> 34, 59-60, 134, 168, 311, 314, 344, 347, 354, 364, 391, 393, 401,  
407, 413, 416, 426, 445-447, 453-454, 459, 471

<223> a, t, c, g, or other

<400> 15

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ttcgaacagc agcgttctga tttgtgggaa agattgtatg ttgaggcaaa agatcaaaaat 120  
ggaaaacaag gaanagatgg aaaaaagaaa gggggcagag gaagccanag ggctaaaaat 180  
aagtcaaagg aaacattttt gggttcagtt aaggaaacat ttgatgccat gaagaattct 240  
accaaggagt ttgtaaggca tcataaagag aaaattaagc aggctaaaga agctgtgaag 300  
gaaaatctga naanattctc agattcagtt aaatccactt tccnggnact ttanagtacc 360  
cccnagggta tctttgatga aaagggtaat nanagtttgg ngctacnaaa gangcnagct 420  
gaaaanccag gacagttttt agggnnntat tgnnatccnc agtataaggc ncc 473

<210> 16

<211> 529

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 1477338F1

<220>

<221> unsure

<222> 119, 501

<223> a, t, c, g, or other

<400> 16

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tggccctggt ctatctctta aatccttaca cgattttgtc ttgtgttgcc aagtctacnt 120
gtgccatcaa caacaccctc attgctttct tcattttgac tacgataaaa ggcagtgcct 180
tcctcagtgc tatttttctt gccttagcga cataccagtc tctgtaccca ctcaccttgt 240
ttgtcccagg actcctctat ctcctccagc ggcagtacat acctgtgaaa atgaagagca 300
aagccttctg gatcttttct tgggagtatg ccatgatgta tgtgggaagc ctagtggtta 360
tcatttgctt ctccttcttc cttctcagct cttgggattt catccccgca gtctatggct 420
ttatactttc tgttccagat ctcaactcaa acattggtct tttctggtac ttctttgcag 480
agatgtttga gcacttcagc ntcttctttg tatgtgtgtt cagatcaac 529
```

<210> 17  
<211> 581  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<223> Incyte ID No: 1520634F1

<220>  
<221> unsure  
<222> 372, 374, 445  
<223> a, t, c, g, or other

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<400> 17
gccatcccc tgccctcagc ctctggcatt ttctctcggt gagaccatgg agggccctcc 60
ccgtcggact tgccgctccc cagaacctgg accttctctc tccatcggat ctecccaggc 120
ttcatctcct ccaaggccca accactacct gcttattgac actcagggtg tcccctacac 180
agtgtctggtg gacgaggagt cacagaggga gccaggggcc agtggggctc caggccagaa 240
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caagcgcgcc ancnaattgg cacggcacca ttccattcac ctggcgggtg gtgggcggcc 420
ccacggctgc ccgtctctgc ctcgncgttc cgggatgcgg gtgagctggc ccagcacagc 480
cgggtgcact ctgggggaacg cccgtttcag tgtcacactg cctcgccgtt tatggagaga 540
acacactgca gaaacacacg ggtggaagca tccatgagcg g 581
```

<210> 18  
<211> 637  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<223> Incyte ID No: 1525569F6

<220>  
<221> unsure  
<222> 462, 485, 510, 514, 550, 562, 602, 617, 622, 625, 629, 636  
<223> a, t, c, g, or other

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<400> 18
cagtaatcag ccagtcctg cctttagacg acgccgtgct aggaagaaga ccgtttctgc 60
ttcagaatct gaagaccggc tagttgctga acaagaaact gaaccttcta aggagttgag 120
taaacgtcag ttcagtagtg gtctcaataa gtgtgttata cttgctttgg tgattgcaat 180
```

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```
cagcatggga tttggccatt tctatggcac aattcagatt cagaagcgtc aacagttagt 240
cagaaagata catgaagatg aattgaatga tatgaaggat tatctttccc agtgtcaaca 300
ggaacaagaa tcttttatag attataagtc attgaaagaa aatcttgcaa ggtgttggac 360
acttactgaa gcagagaaga tgtcctttga aactcagaaa acgaaccttg ctaccagaaa 420
atcagtattht aagagtatcc ttggagaagg aagaaaaagc cntatcctca ttaccaggga 480
agagntaaac aaacttaaga ggaccagttn gganattgga agataaaggg gacaagtact 540
gaattagttn aaggaaaatc cngaaacttt aagcagcctt tggaagaggg aaagccggaa 600
anacaccagc tttcctnagt cnaangggng accctnt 637
```

<210> 19  
<211> 187  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<223> Incyte ID No: 1554775H1

<220>  
<221> unsure  
<222> 13, 19, 21  
<223> a, t, c, g, or other

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<400> 19
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aagatggcgg aggcggggga tttctggtag gtcctacttt aggacaagat gtggtagcgt 120
tgaagcgtca gtctttgatt cacagacagt tgagcttttc agctgggaag cctttccatt 180
ttttttt 187
```

<210> 20  
<211> 499  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<223> Incyte ID No: 1596581F6

<220>  
<221> unsure  
<222> 406, 435  
<223> a, t, c, g, or other

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<400> 20
aaaaagcaga aactcctcct agaactggac cagtatgcc cagatgtggc cgaactcatc 60
cggaccacctt tggaaatgcg ttacatccct ttgaaagtgg ccctgttcta tctcttaaat 120
ccttacacga ttttgtcttg tgttgccaag tctacctgtg ccatcaacaa caccctcatt 180
gctttcttca ttttgactac gataaaaggc agtgctttcc tcagtgtat ttttcttgcc 240
ttagcgacat accagtctct gtaccacctc acctgttttg tcccaggact cctctatctc 300
ctccagcggc agtacatacc tgtgaaaatg aagagcaaag ctttctggat cttttcttgg 360
gagtatgcca tgatgtatgt gggaaagcta gtggtaatca tttgcntctc cttcttcctt 420
ctcagctctt ggganttcac ccccgagtc taatggctta tactttctgt tccagatctc 480
atccaaacat tgggtcttt 499
```

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<210> 21  
<211> 287  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<223> Incyte ID No: 1596581T1

<220>  
<221> unsure  
<222> 122, 144, 266, 273  
<223> a, t, c, g, or other

<400> 21  
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ggcctacttg agcacgagca tggcctctgt gccatccttg gcggtcaagt agaggccatg 120  
tntgaggtag tactcccgcc gcangaaggc atagaagtaa tcagagatga gcaggatctg 180  
cccaacggtg aagggtcagtg tgatggcata aaagaaatta gagttggcac ttcctgcata 240  
aatccagagg tgccacagga caggggnagaa cangggacag acgattt 287

<210> 22  
<211> 579  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<223> Incyte ID No: 162871X4

<220>  
<221> unsure  
<222> 22, 25, 32, 106, 123, 126, 135, 208, 216, 219, 234, 236, 263, 271,  
282, 287, 292, 358, 360, 363, 365, 379, 412, 441, 452, 459, 483, 485,  
499-500  
<223> a, t, c, g, or other

<400> 22  
ctaaagaaga gcggtagggg gncnnggggc tngtcccaga aagtatggcg gaggcggggg 60  
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tcncanacag ttganctttt cagctgggaa gcctttccat tttttttttt aacggctttc 180  
tgaacctatg aaacctatggc aaaagganaa acaaantcnc ctgggcccac aaantntggc 240  
ccatatattt catctgtcac tanccaaatt ntgaacttga tnattcnagg antattgcta 300  
ttttttattg gagtatttct tgcattatgt ttaaatttac ttcaaattca aaaaaatntn 360  
acnncntttc cacctgatnt gattgcaagc atcttttctt ctgcatgctg tnattgggtt 420  
attatacccc tgcattaaca nacatctagg anaaccacnt aaatttaaaa aaaagtgggc 480  
cantntaatg cgggtgtgtnn cagtctttgt tggataaat catgccagtg ctaaagtgga 540  
tttcgataac aacatacagt tgtctctcac actggcgca 579

<210> 23  
<211> 250  
<212> DNA  
<213> Homo sapiens

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<220>

<221> misc\_feature

<223> Incyte ID No: 162871X92

<220>

<221> unsure

<222> 8, 17, 24, 27, 33, 36, 43, 246

<223> a, t, c, g, or other

<400> 23

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ttctgctgtg attgggttat tatacccctg cattgacaga catctaggag aaccacataa 120
atttaaaaga gagcgggtcca gtgtaatgcg gtgtgtagca gtctttgttg gtataaatca 180
tgccagtgtc aaagtggatt tcgataacaa catacagttg tctctcacac tggctgcact 240
atcttnaaaa                                     250
```

<210> 24

<211> 250

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 1658067H1

<220>

<221> unsure

<222> 8

<223> a, t, c, g, or other

<400> 24

```
cgacagtngg ggacgtggcg ctctacatgg ccttcttccc cgtgtggaac catctctaca 60
gattcctgag aaacatcttt gtctcacct gcatcatcat cgtctgttcc ctgctcttcc 120
ctgtcctgtg gcacctctgg atttatgcag gaagtgccaa ctctaatttc ttttatgcca 180
tcacactgac cttcaacgtt gggcagatcc tgctcatctc tgattacttc tatgccttcc 240
tgcggcgggg                                     250
```

<210> 25

<211> 736

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 1706512F6

<220>

<221> unsure

<222> 419, 435, 453, 462-463, 471, 476, 513, 516, 563, 585-586, 597, 611, 618, 652, 661, 680, 684-685, 692-693, 701, 714, 725, 731

<223> a, t, c, g, or other

<400> 25

```
atcagaagct cttcactgac tttgttaatg atgttaaaga ttatcttaga aacatgaagg 60
```



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```
aatatgaagt agataatgat ggagtatttg agaagttgga tgaatatata tatagacact 120
tctttgggtca cactttttcc cctccatatg gaccaggtc ggtttacata aaaccgtgtc 180
attacagtag tttgtaacat ttgtagattg gatagcattt ttatgatttg atgagtttct 240
tgtaagggtta ccgtttctaa gagttgtgct ttatgggcac tgagagaatt ccagaataaa 300
ttgaaagatg ggagtcctaa aaatttaatt agccggttac caaatgggga ccttttccat 360
tagtaacggt gattccacct ttggaccttt gaggccaaat gggtttaaat ttttttaanc 420
ccttaaaaaa atccnggttt aaaggaatta ttnttaaaga annccccacc nttttngggc 480
ccaaggtttt ggttttccct ttttccattt aanaanggtt ttaataatgg aaaaaaggat 540
tccacccttt aaaggtggga aantttaatt ttttccccct taaannccct ttttaanggg 600
aatttaaatt nccccctnct gggaagccca agggaatgga ggcccacccc cnaattttta 660
nccccggaag gtccggaagn ggcnnccctat annaataatt nccaaaggtc cccncccaat 720
tttcnctggt ncccat 736
```

<210> 26

<211> 611

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 1722946F6

<220>

<221> unsure

<222> 213, 223, 369, 406, 423, 469, 475, 490, 494, 498, 524, 548, 570, 574,  
582, 584, 594, 597, 605, 607

<223> a, t, c, g, or other

<400> 26

```
attggcgccc gagctgtgac cgccgccact ggggcagcca gcacaatcgg gcggaggtgg 60
cgctgccccct tcagacctga aagatgtctg aaaattccag tgacagtgat tcattctgtg 120
gttggactgt catcagtcac gaggggtcag atatagaaat gttgaattct gtgacccccca 180
ctgacagctg tgagcccgcc ccagaatgtt canctttaga gcnagaggag cttcaagcat 240
tgcagataga gcaaggagaa tgcagccaaa atggcacagt gcttatggaa gaaactgctt 300
atccagcttt ggaggaaacc agctcaacaa ttgaggcaga ggaacaaaag ataccggaag 360
acagtatcna tattggaact gccagtgggtg attctgatat tggtanccct tgagccacta 420
agnntagaag gaattgggga tccaagaagt tgtcattgtt gaagaaagnc caagntccgg 480
agacttttan catngggntc ttcctctagc agccagtata cttntctgtt cagcccagaa 540
aactggantt tcattcttcag cctaatagacn gtgnaatcaa gntngtgatg gaancngtt 600
attcngnccc c 611
```

<210> 27

<211> 592

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 1853196F6

<220>

<221> unsure

<222> 94, 104, 149, 167, 215, 226, 232, 275, 298, 301, 312, 333, 362, 364,  
367, 376, 391-392, 395, 412, 415, 419, 429, 435, 443, 449, 452, 462-464,

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466-468, 470, 476, 485, 489, 492, 502, 514, 529, 533, 541, 550, 557-558, 567, 572, 574, 577, 580

<223> a, t, c, g, or other

<400> 27

```
ctttcagaaa ggcttggttct ggtgtatttg attgtgctca acaagagtcc atgagccttt 60
ttaacacagt ggtgaatcct ataaggatgg atgnatttag acanataatt caaaggtaca 120
tgttaaaaga actggatact ttttgtcant ggaacgaact tgatcanttc atcaataagt 180
ttttcctaaa cggtgtcttt atacatgatc agaancctct cactgncctt gntaatgatg 240
ttaaagatta tcttagaaac atgaaggata tgaantagat aatgatggag tatttgcnaa 300
nttgatgga tntatatata gacacttctt tgntcacact ttttcccctc catatgggcc 360
cngntcngtt tacatnaaac cgtgtcttac nntantttgt aacatttgta gntgnatanc 420
atttttaant ttgangagtt tcntgtaang tnacgggtcc annngnnntn ctttanagcc 480
accanagana antcggataa antgaaagta gggntccaaa attattaant gtnccaatag 540
nactttcctn ataaagnngt caccttngct tnanccnatn ggtttaattt tt 592
```

<210> 28

<211> 447

<212> DNA

<213> Homo.sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 2238411F6

<400> 28

```
tttggggcacc agcctctgag ggcctcaaac caggccctga ggatggggccg ggcaaggagg 60
aagctccgga gctggacgag gccgaattgg actacctcat ggatgtgctg gtgggcacac 120
aggcactgga gcgaccgccg gggccagggc gctgagccct cgtgctggaa tggttgtctg 180
gtatctgaac tgagcctgct ggctggacca actgtcctcg aaaagacaca gctggcttcc 240
ctagtagaca gaacagggtc tgggccactt tggagagaca gaatctagtc ctgggcaact 300
tcacatccgt cctcctgtct cagggtctgc agggggagcc tgggaattacc ccctagtgat 360
ggaatgacag ggtctggtgg ggactgaatt ccctggccct ggggtcatag cttgggctgt 420
tccttctctg atacgggaag agacccc 447
```

<210> 29

<211> 247

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 2312928H1

<220>

<221> unsure

<222> 234

<223> a, t, c, g, or other

<400> 29

```
tgctggtggt ggctgtgaca gtgcgggccc ccttggttccg ctccagtctg gccgagttca 60
tttccgagcg ggtggaggtg gtgtccccac tgagctcttg gaagagagtg gttgaaggcc 120
tttcactgtt ggacttggga gtatctccgt attctggagc agtatttcat gaaactccat 180
taataatata cctctttcat ttcctaattg actatgctga attggtgttt atgntaactg 240
```

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atgcact

247

<210> 30

<211> 190

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 3015795H1

<220>

<221> unsure

<222> 162-163

<223> a, t, c, g, or other

<400> 30

```
acttcacatc cgctcctcctg tctcagggct ggcaggggga gcctggaatt accccctagt 60
gatggaatga caggggtctgg tggggactga attccctggc cctgggggtca tagcttgggc 120
tggtccttct ctgatacggg aagagacccc aatcagattt tnnaaattaa agccagtcct 180
gggaaatctc                                     190
```

<210> 31

<211> 253

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 3231214H1

<220>

<221> unsure

<222> 121

<223> a, t, c, g, or other

<400> 31

```
gtttcagatc aacgtcttct tctacaccat ccccttagcc ataaagctaa aggagcaccc 60
catcttcttc atgtttatcc agatcgctgt catcgccatc tttaagtcct acccgacagt 120
nggggacgtg gcgctctaca tggccttctt ccccggtgtg aaccatctct acagattcct 180
gagaaacatc tttgtcctca cctgcatcat catcgctctg tccttggtc ttcctgtcc 240
tgtggcacct ctg                                     253
```

<210> 32

<211> 273

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 3985439H1

<220>

<221> unsure

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<222> 88

<223> a, t, c, g, or other

<400> 32.

```
gtcttccttg cgtgtgcgtg cacgttgggt gctgggggggt ggagaccgga tctatcctcg 60
cttgggtact ttctctcgg tgtgtgntc tggccggagc cgtttcgga cggcccgggc 120
gccccgcccc aaccttcctt ccctagaccc tcttctctcc ctteggcttc tctctttcgg 180
ccggcgccgc cagttcctgg ggcacacca gaggtccctt tctcgccgc gcctgcaact 240
gcgagggtag cccggggccg cttggagtcg ccc 273
```

<210> 33

<211> 618

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 403002R6

<220>

<221> unsure

<222> 190, 336, 351, 413, 420, 423, 432, 441, 449, 454, 462, 510, 520, 524, 530, 552, 555, 557, 560-561, 569, 574, 584-585, 594, 596, 611, 614

<223> a, t, c, g, or other

<400> 33

```
tgctggtgga cgaggagtca cagagggagc cagggggccag tggggctcca ggccagaaaa 60
agtgtacag ctgccccgtg tgctcaagg tcttcgagta catgtcctac cttcagcgac 120
acagcatcac ccactcggag gtaaagccct tcgagtgtga catctgtggg aaggcattca 180
agcgcgccan ccacttggca cggcaccatt ccattcacct ggcggtggtt gggcgggccc 240
acggctgccc gctctgccct cgccgcttcc gggatgcggg tgagtggccc aagcacagcc 300
gggtgcactc tggggaacgc cgtttcagt gtcaanactg ccttcgccgg ntttaattga 360
gcagaacaca attgcagaaa acaacaccgc ggttggaag catccattg aanccggggn 420
ttncggggtt tnccccaagg ntaccaaang gaantttttc anaggggaac cttgaaatt 480
ccctgttcca aaaaaacctt ggttaaaaaan ccctaaagg tggnttttn aggggccttg 540
gaaaaacagg ancananggn naggcggant ttnaaaggg aaannccctt gccnanaagg 600
gggaatcccg naantaat 618
```

<210> 34

<211> 297

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 510407R6

<400> 34

```
tgagtaatct tcaggctctc cgtgttcttg agctgagatg ggaatgagcc cctacacaga 60
atggagtct ctagcctaaa gatatacagc gttccatggc agagccttga ctggatggag 120
gtggggagtg tgggtgtgtaa agtctctggc ctcataaaaag gtggctgtgg gtcgtcagga 180
atctgcgcca tcttctctgg gcttctgccc tgttggtggg gaagggacct cagtcctgcc 240
ttccaccccc caaccaggcc tgagactgat caaacaataa acacgtttcc cactctg 297
```

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<210> 35

<211> 239

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 3590729H1

<220>

<221> unsure

<222> 91

<223> a, t, c, g, or other

<400> 35

ggcgagtgct tgggcagaag aggttcgagt ccagggtcac aagtctctgg taccaaaagg 60  
gacccatggc tgactgacag caaggcctat ngggaagaac tgggagctcc ccaacttgga 120  
ccccacctt gtggctctgc acaccaagga gccccctccc agacaggaag gagaagaggc 180  
aggtgagcag ggcttggttag attgtggcta cttaataaat gttttttggt atgaagtct 239